Claims

We claim:

1.   A method of flow control in a packet switch, comprising the steps of:

5   classifying an incoming packet according to its priority based on predefined rules to produce a lifetime value associated with the packet;

sending the packet and associated lifetime value to a queue;

periodically changing the lifetime value and comparing the changed value to a threshold value; and

10   removing the packet from the queue based on the comparing.

2.   The method of Claim 1, further comprising the steps of:

determining a weight value based on the priority of the packet;

determining a queue occupancy in a queue to which the packet is assigned;

15   producing the lifetime value based on the weight value and the queue occupancy; and

discarding the packet if its associated lifetime value is below the threshold value.

3.   The method of Claim 2, wherein the discarding of the packet occurs

20   before sending the packet and associated lifetime value to the queue.

4.   The method of Claim 1, the lifetime is periodically decremented and the packed is removed from the queue when reaching the threshold value.

5.   A packet switch comprising:

a packet classification engine for classifying an incoming packet

25   according to its priority based on predefined rules to produce a lifetime value associated with the packet;

a queue for receiving the packet and associated lifetime value;

an aging engine for periodically changing the lifetime value of the packet in the queue;

a comparator for comparing the changed value to a threshold value to

5 remove the packet from the queue based on the comparing.

6.   The packet switch of Claim 5, wherein the packet classification engine determines a weight value based on the priority of the packet;

and further comprising a random early detect engine for:

producing the lifetime value based on the weight value and the queue

10 occupancy in a queue to which the packet is assigned; and

discarding the packet if its associated lifetime value is below the threshold value.